

AD-782 074

THE CONSERVATIVE TREATMENT OF
CHRONIC TONSILLITIS

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25 June 1974

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UNCLASSIFIED

Security Classification

AD782 074

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author) Foreign Technology Division Air Force Systems Command U. S. Air Force		2a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED	
3. REPORT TITLE THE CONSERVATIVE TREATMENT OF CHRONIC TONSILLITIS		2b. GROUP	
4. DESCRIPTIVE NOTES (Type of report and inclusive dates) Translation			
5. AUTHOR(S) (First name, middle initial, last name) K. G. Shukuryan			
6. REPORT DATE July-August 1970		7a. TOTAL NO. OF PAGES X 12	7b. NO. OF REFS 13
8a. CONTRACT OR GRANT NO.		9a. ORIGINATOR'S REPORT NUMBER(S) FTD-HT-23-1296-74	
b. PROJECT NO.		9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)	
c.			
d.			
10. DISTRIBUTION STATEMENT Approved for public release; distribution unlimited.			
11. SUPPLEMENTARY NOTES		12. SPONSORING MILITARY ACTIVITY Foreign Technology Division Wright-Patterson AFB, Ohio	

13. ABSTRACT 06

FTD-HT-

23-1296-74

EDITED TRANSLATION

FTD-HT-23-1296-74

25 June 1974

THE CONSERVATIVE TREATMENT OF CHRONIC
TONSILLITIS

By: K. G. Shukuryan

English pages: 9

Source: Vestnik Otorinolaringologii, Vol. 32,
Nr. 4, July-August 1970, pp. 58-63

Country of Origin: USSR

Translated by: Catherine M. Barber

Requester: FTD/PDTR

Approved for public release;
distribution unlimited.

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JUL 29 1974
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PREPARED BY:

TRANSLATION DIVISION
FOREIGN TECHNOLOGY DIVISION
WP-APB, OHIO.

FTD-HT- 23-1296-74

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Date 25 Jun 19 74

THE CONSERVATIVE TREATMENT OF CHRONIC TONSILLITIS¹

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Considering that the incidence of chronic tonsillitis is still high, the question of treatment of patients with this illness is one of the pressing problems in otorhinolaryngology (ENT).

Treatment of patients with chronic tonsillitis is more often decided in favor of surgery. According to data of various authors, in ENT hospitals for adults patients with chronic tonsillitis occupy up to 40-50% of the beds, while in pediatric institutions they occupy up to 70-80%. As noted by B. S. Preobrazhenskiy (1961) "in a huge number of admissions by ENT clinic doctors of patients to a hospital for a tonsillectomy, it appears that doctors make inadequate use of even the well-known conservative methods for compensated chronic tonsillitis". Actually many polyclinic ENT specialists, having made a diagnosis of chronic tonsillitis, immediately admit the patient for an operation. The basic question here is only obtaining the admission (accomodation) into the hospital.

¹The editorial board does not necessarily endorse the views in this article. See the article by I. B. Soldatov (1969, No. 4, p.10).

As is well known, a great number of methods of conservative therapy for chronic tonsillitis exist at the present time (they are given in detail in the article by I. B. Soldatov, 1969). The materials given in the literature on the use of conservative therapy for chronic tonsillitis indicate a comparatively wide use of irrigation of the tonsillar lacunae with solutions of antiseptics and antibiotics, intratonsillar injections of various pharmaceuticals, ultraviolet irradiation, complex nonspecific and specific therapy, etc. Using one or another method of conservative therapy, the authors concerned with this question are inclined, on the one hand, to affect the pathological contents of the lacunae, the microflora of the tonsils, and on the other hand to promote the development of sclerosis in the tonsils, apparently in order to compact the epithelial tegmen, to atrophy lymphoid tissue, etc.

Once conservative treatment for chronic tonsillitis is prescribed local and general treatment are calculated for it. On the basis of the toxic-allergic genesis of chronic tonsillitis, many doctors attach great value to complex nonspecific and specific desensitizing therapy.

The proposed conservative methods for treating chronic tonsillitis, according to the data of many authors, promote to one degree or another the cessation of recurrences of sore throat, the improvement of the general state up to normalization of physiological activity of the tonsils, etc.

However, it is necessary to note that despite the existing variety of remedies and suggestions for conservative treatment of chronic tonsillitis, this type of therapy is unfortunately being used inadequately at present. Meanwhile the selection and wide use of conservative treatment of chronic tonsillitis are important in the outpatient practice of the otorhinolaryngology specialist. Undoubtedly, upon selection of one or another type of conservative therapy and an appraisal of its effectiveness, consideration of the features of pathogenetic factors and clinical forms of illness has an important value.

As is well known, among the various pathogenetic factors which cause the development of tonsillar affections and their complications, one of the foremost is the penetration of microbial, toxic, allergic, and other pathogenic agents through the tonsils into the organism with subsequent sensitization of the organism, a variety of disturbances in its reactivity, and intoxication.

From this point of view it is very important to study the state of permeability of the tonsillar tissues, since disturbance of this state should, on the basis of the infectious-allergic genesis of chronic tonsillitis, play an essential role in the pathogenesis and clinical and morphological manifestations of this illness. Consequently, in searching for methods of conservative treatment for chronic tonsillitis we feel that an important place should be occupied by the problem of studying the possibility of influencing the permeability of the tonsillar tissues and reducing their resorbing activity, to obtain subsequent limitation of penetration into the organism of pathogenic agents from the focus of infection in the tonsils.

We conducted investigations to study the permeability of tonsillar tissues in patients with chronic tonsillitis on the basis of indications of resorption of fluorescein and radioactive indicators out of the tonsils, determination of hyaluronidase activity in extracts of the palatine tonsils, and a morphohistochemical study of the structural changes in the connective tissue and the vessels of the tonsils. The results of these investigations indicate that in patients with both chronic toxic-allergic tonsillitis and chronic tonsillitis with conjugated diseases the absorptive capacity of the tonsillar tissues was significantly accelerated compared to patients of the control group.

The data of the clinical, biochemical, and histochemical investigations of G. A. Babarn (1965) show that the absorptive

capacity of the tonsillar tissues was significantly accelerated in children of preschool and school age and also in young adults.

On the basis of data obtained by us (K. G. Shukuryan, 1960; A. S. Vardanyan, 1967) it was also shown that in most patients with chronic tonsillitis under our observation disturbance of the permeability of the tonsillar tissues is accompanied by definite displacements in the general reactivity of the organism which are manifested in a change in vascular permeability.

It is well known that for normalization of disturbed vascular and tissue permeability use is made of antihistamine preparations, various inhibitors of enzymes causing decomposition of inter-cellular substances, etc. One of such methods of treatment is the use of various sclerosing means - salicylic sodium, ACTH, trypsin, etc., which facilitate the compaction of tissue membranes.

On the basis of this, and assuming that the pathological state of the organism with chronic tonsillitis depends to a considerable extent on the entrance of toxic, allergic, and other agents penetrating through more highly permeable tonsillar tissue, we simultaneously attempted to determine the possibility of reducing the absorptive capacity of the tonsils by using means which compact their tissue membranes. In selecting these remedies we decided on alcohol, which has amply proved itself in other cases of a similar nature.

Experimental study of the effect of different alcohol concentrations on the tonsillar tissues of a dog showed that the optimum concentration, which does not cause abrupt changes in tonsillar tissues in a functional-morphological respect, is 70°.

As a result of histological and histochemical study of tissues of palatine tonsils removed from patients with chronic tonsillitis at various times after injection of 70° alcohol, the following

appeared: a diffuse growth of connective tissue without foci of metachromasia, intensive coarsening, collagenization, fragmentation of argyrophil fibers, and a significant increase in plasma and adipose cells.

The treatment method consists of the following: two doses 0.5-1.0 ml of 70° alcohol were administered in the upper and lower region (with respect to the direction of the hilus) of the tissue of each tonsil. To reduce discomfort we added novacaine. According to our observations administration of alcohol can be prescribed for patients 14 years and older.

We administered alcohol to the tonsillar tissues once or twice. We did not resort to repeated administration since, as our experimental and also morphohistochemical study showed, the structural changes in the tonsillar tissues with single or double administration of 70° alcohol do not differ qualitatively from tissues with repeated administrations.

It should be noted that in some patients a short-lived irradiating pain and a burning sensation occurred in the throat after intratonsillar administration of alcohol. Among reactive phenomena we observed hyperemia, sometimes edema of the mucous membrane of the arcus and tonsils with small scabs present (when the alcohol is administered under the mucous membrane).

The clinical effect of treating chronic tonsillitis by the method indicated above was manifested by absence or significant decrease in the recurrence of tonsillitis and also in the disappearance of inflammatory phenomena on the part of the tonsils; the lacunae decreased in size and, at the same time, the general state of the patient improved.

According to the investigations which we conducted, it is advisable to combine intratonsillar injections with means for

nonspecific desensitization (dimedrol, suprastin, etc.) and with substances which reduce the permeability of the tissues (rutin, etc.).

The results of our morphological investigations and clinical observations support the consideration that the positive therapeutic effect from the intratonsillar administration of 70° alcohol during chronic tonsillitis was caused primarily by sclerosing, by the induration of tissue elements of the tonsils. A possible mechanism of the effect of alcohol on the permeability of the tonsillar tissues can be the reduction of enzymatic activity of hyaluronidase. This explains the absence of sources of mucoidal swelling in the connective tissue, particularly some time after the administration of alcohol. After administering alcohol to the tonsillar tissue we observed a significant plasmatization of the tissue of palatine tonsils, in all probability reflecting activation of immunological processes in them.

We are convinced that after administration of 70° alcohol to tonsillar tissue definite changes occur in the form of their varicose dilation, swelling, and fragmentation even on the part of nerve fibers. It can be assumed that the positive therapeutic effect from administering alcohol to the tonsillar tissue is also caused, to a certain extent, by the subsequent reduction in the morphological structure and function of the nerve apparatus, since its change during chronic tonsillitis is mainly reversible (I. B. Soldata, 1962, and others), and alcohol can stimulate compensatory-adaptive processes in nerve elements of the tonsils.

It is well known that the most common and respected method of conservative treatment of chronic tonsillitis is the irrigation of the tonsillar lacunae. Literature data show that various pharmaceuticals (solutions of rivanol, boric acid, furacilin, sulfanilamide, antibiotics, iodinol, etc.) have been used to remove the pathological contents from the tonsillar lacunae by irrigation.

Our observations show that the irrigation of the tonsillar lacunae, which rids them of their pathological contents, also promotes, to a considerable extent, a reduction in the absorptive capacity of the tonsillar tissues and thereby reduces the degree of allergization of the organism. With this point of view definite interest is given to the work of S. M. Avakyan et al. (1965), who studied the effect of the irrigation of tonsillar lacunae on general and regional leukocytosis and on the changes of albuminous fractions of serum in the blood of patients with toxic-allergic tonsillitis. Observations of the authors show that in most patients a decrease in regional leukocytosis and definite oscillations of albuminous fractions are noted.

A. S. Vardanyan (1967, 1968) made observations in order to study the state of vascular and tissue permeability in patients with chronic tonsillitis before and after conservative and surgical treatment. The study of vascular and tissue permeability in patients with chronic tonsillitis was made using the clinical methods of Kanchalovskiy - Rumpel' - Leyede*, MacClure - Oldrich*, and an intradermal fluorescein test both close to the tonsils and far from them (on the forearms). Conservative treatment was performed by irrigating the tonsillar lacunae with iodinol. The course of the treatment consisted of ten irrigations which were performed, as a rule, two days apart. The results obtained by the author show that after the course of irrigation with iodinol in patients with chronic tonsillitis the pathologically elevated vascular and tissue permeability was reduced. The course of this type of treatment can be repeated after 2-4 months. This method can be used both in adults and in school-age children. With regard to surgical treatment the data of the author indicate that after tonsillectomies a reduction in vascular and tissue permeability also occurs, particularly if the surgical treatment is accompanied by prescription of preparations which reduce permeability (rutin, etc.).

*Translator's Note. Spelling of names not verified.

According to our data, after conservative treatment the degree of allergization is reduced and the level of reactivity of the entire organism is raised. After the course of treatment by irrigating the tonsillar lacunae with iodinol most patients showed a decrease in the titer of antistreptolysin-0 and reduced degree of reaction with streptococcal and staphylococcal allergens.

Clinical observations convince us that irrigation of tonsillar lacunae with iodinol (which apparently is not a specific remedy in this case) has advantages over irrigation with other antiseptics or with antibiotics. Iodinol, in addition to antibacterial action, has pronounced antihyaluronidase activity (V. O. Mokhnach, 1962; I. V. Abrazevich, 1962, and others). In our opinion, this explains the reduction of the absorptive capacity of the mucous membrane of the tonsillar lacunae after conducting the course of treatment. In addition, after conservative treatment with iodinol we observed, at various times, a noticeable reduction in the palatine tonsils and their induration in most patients. This feature was observed by B. M. Mlechin et al. (1964) and others. It can be assumed that iodinol facilitates the compaction of tissue barriers of the tonsils, reducing their absorptive capacity.

In pediatric practice, particularly with children of preschool age, it is advisable to smear the tonsils with iodinol.

We usually performed conservative treatment, with respect to the course of chronic tonsillitis, with irrigation or intratonsillar injections during the simple form or with toxic-allergic chronic tonsillitis of the first degree (classification of B. S. Preobrazhenskiy, 1964). During the toxic-allergic form of the second degree and also upon a diagnosis of the pathogenetic influence of chronic tonsillitis on the tendency of another illness conjugate with it, we resorted to tonsillectomy, as a rule.

Thus, the data derived by us indicate that disturbance of vascular and tissue permeability of the tonsils plays an essential role in the pathogenesis and clinical and morphological manifestations of chronic tonsillitis. Therefore, the problem of normalizing the permeability of the tonsillar tissue must be given much attention in further searches for efficient methods of conservative treatment of this illness.

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